TOPCOM®
Xplorer 850

Installation Guide
ADSL USB MODEM

DECLARATION OF CONFORMITY

We TTS Nv, Grauwmeer 17 , 3001 Heverlee , Belgium declare that our product :

Product name: TOPCOM

Model type: Xplorer 850

is in conformity with the essential requirements of the R&TTE directive 1999/5/EC and carries the **CE** mark accordingly.

Supplementary information:

The product complies with the requirements of:

Low Voltage Directive 73/23/EEC
EMC Directive 89/336/EEC

Date: 20/09/200
Place: Heverlee , Belgium
Name: Verheyden Geert
Function: Technical Director

Signature:

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CHAPTER 1 - GENERAL

FEATURES

The **Topcom Xplorer 850 USB ADSL Modem** provides the following features:

- Compliant with Universal Serial Bus Specification Revision 1.1
- USB bus-powered; an external power supply is not required
- Supports three device drivers: Microsoft® NDIS 4.0 WAN Miniport, NDIS 4.0 LAN Miniport or NDIS 5.0 ATM Miniport
- Compatible with all T1.413, G.DMT, and G.lite compliant CO DSLAM equipment as well as the vast majority of deployed CAP RADSL CO equipment
- Software upgradeable
- Supports up to sixteen simultaneous ATM virtual connections
- Includes a Microsoft Windows control panel monitoring program for configuring the adapter and checking the status of the connection
- RJ-11 connector for connection to the telephone line
- Supports DSL downstream data rates up to 8 Mbps
- Supports DSL upstream data rates up to 1024 Kbps

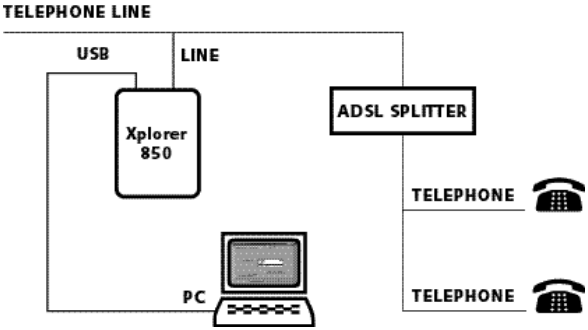
SYSTEM REQUIREMENTS

- PC with Pentium 166 MMX
- 32 MB RAM
- 10 MB Free HDD space
- 1 Free USB connection
- Operating System: WIN 98, WIN 98 Second Edition, WIN 2000 or WIN Me
- ADSL analog line (= annex A)
- CD-drive

CHAPTER 2

XPLORER 850 USB ADSL MODEM INSTALLATION AND SOFTWARE SETUP

CONNECTION DIAGRAM :



REMARK:

Be sure to follow the instructions provided for your PC's operating system. The following information may be required for software installation. Contact your DSL service provider before proceeding with software installation.

- Type of Driver to be Installed – WAN, LAN and ATM software drivers are supported. The choice depends upon your DSL service provider.
- IP Address Settings – the Xplorer 850 software installation process allows the server to dynamically assign IP Address settings. If your application requires static setting of specific address information you will need to know:
  - IP Address
  - Subnet Mask (for Bridged Ethernet applications only)
  - Default Gateway (for Bridged Ethernet applications only)
- Name Server Information – the Xplorer 850 software installation process allows the server to dynamically assign Name Server Address settings. If your application requires static setting of specific address information you will need to know:
  - Primary DNS Address
  - Secondary DNS Address
  - Primary WINS Address
  - Secondary WINS Address

- ATM Virtual Path ID (VPI)

  Note: Required if not using default values for driver type
- ATM Virtual Circuit ID (VCI)

  Note: Required if not using default values for driver type
- Encapsulation type

  Note: Required if not using default values for driver type
- Modulation type

  Note: Required if not using default values for driver type
- User Name (for PPP applications only)
- Password (for PPP applications only).

SOFTWARE SETUP

Before starting the software setup process, close all Windows programs already running on your PC.

1. Insert the installation CD into the CD drive and double click 'Setup.exe' to start the installation procedure. A notification message will appear indicating that the setup process has begun.
2. The "Welcome" window provides an opportunity to quit the setup process to exit all Windows programs before continuing. If the Windows programs were previously closed, click 'Next'.
3. The "Select ISP" window allows you to specify your DSL service provider. A list of service providers and country selections is displayed. Default values for the Type of Driver, ATM Virtual Path ID (VPI), ATM Virtual Circuit ID (VCI), Encapsulation type and Modulation type are provided for each DSL service provider listed in the window.

- If your DSL service provider is listed and you would like to accept the default values, highlight the provider's name or country name and click 'Next'. Continue with Step 5 below.
- If your DSL service provider is listed and you would like to change the default values, highlight the provider's name and click 'Customize'. Continue with Step 4a below.
- If your DSL service provider is not listed select 'Other Service Provider' and click 'Next'. Continue with Step 4a below.

4. "Select Driver Type"
   a) Select the type of driver to be installed from the "Select Driver Type" window and click 'Next'.

   b) Enter the VPI, VCI, Encapsulation type and Modulation type from the "Communication Settings" window and click 'Next'.

Note: Encapsulation types vary depending upon the application.

5. The "Start Copying Files" window will be displayed. You may review the current settings and click 'Customize' or 'Back' to change the settings. Click 'Next' to accept the current settings; a message will be displayed indicating that files are being copied.

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6. The "Setup Complete" window indicates successful completion of the installation process. Select the 'Yes, I want to restart my computer 'now' option, remove any disks from their drives, and click 'Finish'. Your PC will reboot. Continue with the Hardware Installation section.

HARDWARE INSTALLATION

Note: For Windows 98 SE applications, you may need the Windows 98 SE CD ROM to complete the installation.

Once the PC has rebooted, install the Topcom Xplorer 850 USB ADSL Modem.

1. Insert the rectangular end of a USB cable into the USB port of your PC.
2. Insert the square end of the USB cable into the USB port of the Xplorer 850 USB Modem.
   Note: The USB Modem will be detected and messages will be displayed as the modem software is installed.
3. For Windows 2000 applications, the "Digital Signature Not Found" window may appear warning that the installation software is not a digitally signed version. A digital signature is not necessary. Click 'Yes' to allow the installation to continue. For Windows 2000 applications, the "Found New Hardware Wizard" window indicates the modem has been installed and suggests you reboot the system to have new settings take effect. Click 'Finish'.
4. A message will be displayed confirming reboot of the system, click 'Yes'.
   Once the PC has rebooted, installation of the Topcom Xplorer 850 USB Modem is complete.

CHAPTER 3

CUSTOMIZING ADSL SETTINGS

Once the **Xplorer 850 USB ADSL Modem** and software have been installed, the communication settings may be easily updated/changed by the following steps.

1. Click 'Start' – 'Programs' – 'Topcom Xplorer 850' – 'Configure'.
   A notification message will appear indicating that the setup process has begun.
2. Click 'Settings' from the "DSL Modem Installer" window.
3. The "Communication Settings" window will be displayed. Make the necessary changes to the VPI, VCI, Encapsulation type and/or Modulation type and click 'Apply'.
4. The "Setup Complete" window indicates successful completion of the customization process. Select the 'Yes, I want to restart my computer now' option, remove any disks from their drives, and click 'Finish'. Your PC will reboot.

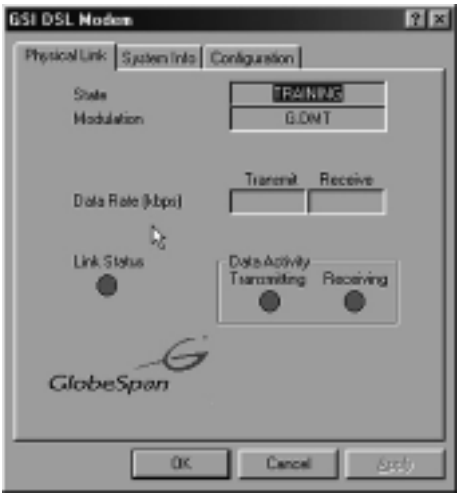
CHAPTER 4

XPLORER 850 CONTROL PANEL APPLICATION

The Topcom **Xplorer 850 USB ADSL modem** control panel program provides a quick and easy way to configure and check the performance of the modem and the ADSL connection. When open, the monitor window updates every 2 seconds.

1. There are two methods to access the GlobeSpan control panel:
   - From the "Control Panel" window ('Start' – 'Settings' – 'Control Panel'), double click the 'GSI DSL Modem' icon, or
   - Double click the 'GSI DSL Modem' icon in the system tray.

   Note: To access the GSIDSLModem Control Panel, the driver must be running. Also, make sure the USB cable is plugged into the modem.
2. The "Physical Link" tab of the "GSI DSL Modem" window (Control Panel) allows you to review the current state of the Topcom Xplorer 850 and connection. When the green indicator is on in the 'Link Status' field, it indicates that a connection has been made. This indicator blinks while a connection is being established. The Transmitting and Receiving data activity are shown separately by individual flashing yellow indicators.



3. The "System Info" tab displays the release number of the Topcom Xplorer 850 modem driver, the firmware release number, and the control panel version that you are currently using.

4. The "Configuration" tab offers driver appropriate Modulation, Encapsulation, and VPI and VCI values. If you are using a WAN or ATM driver, only the Modulation type will be displayed and may be modified. LAN driver applications will be able to view and modify the Modulation type, Encapsulation type, and VPI and VCI values.

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CHAPTER 5

UPDATING MODEM SOFTWARE

Once the **Topcom Xplorer 850 USB ADSL Modem** has been installed, updating to a new version of the software is a simple process as detailed below.

1. Click 'Start' – 'Programs' – 'Topcom Xplorer 850' – 'Configure'.
   A notification message will appear indicating that the setup process has begun.
2. Click 'Update' from the "DSL Modem Installer" window.
3. A message will be displayed asking you to confirm the update, click 'Yes'.
4. The "Select installation location" window will be displayed. Indicate the location of the Setup files and click 'OK'.
5. Since updating the modem software requires removing the old version and installing a new one, a message will be displayed not to unplug the USB modem cable until the uninstall process has been completed. Click 'OK'.
6. A message will be displayed indicating the software is being uninstalled.
7. The "Setup Complete" window indicates successful completion of this portion of the updating process; click 'Finish'.
8. Unplug the USB modem cable.
9. Please choose "Exit" to quit the update.

CHAPTER 6

MODEM UNINSTALL

Remove the **Topcom Xplorer 850 USB ADSL Modem** software drivers by performing the following steps :

Note: The USB cable should not be unplugged until after the uninstall process has been completed. For Windows 98 applications, the cable must be unplugged immediately following Step 6 below.

1. Click 'Start' – 'Programs' – 'Topcom Xplorer 850 Modem' – 'Uninstall'.
   A notification message will appear indicating that the setup process has begun.
2. Click 'Remove' from the "DSL Modem Installer" window.
3. A message will be displayed asking you to confirm the removal of the USB ADSL modem software, click 'Yes'.
4. The "Information" window will be displayed reminding you not to unplug the USB cable until the uninstall process has been completed. Click 'OK'.
5. A message will be displayed indicating the software is being removed.
6. The "Setup Complete" window indicates successful completion of the uninstall process. Click 'Finish'.

Note : The screen for Windows 2000 applications will not ask the user to reboot the system. Click 'Finish' to complete the Uninstall process.

7. Unplug the USB cable from the PC.
   Note : The USB cable must be unplugged before the system is rebooted.

APPENDIX A

OVERVIEW

ABOUT ADSL

Asymmetric Digital Subscriber Line (ADSL) technology provides high-speed data access across regular phone lines (copper wires) by making use of previously unused frequency bandwidth above the voice band. By placing the ADSL signal above the frequency of the voice signal, ADSL service is able to coexist on the same line with your telephone service. ADSL is asymmetric in the sense that it provides a higher data rate in the downstream (receive) direction than in the upstream (transmit) direction. Asymmetric operation is ideal for typical home and small office use where files and information are downloaded more frequently than uploaded.

There are several standard types of ADSL modulation techniques including Discrete Multitone (DMT) and Carrierless Amplitude and Phase (CAP). The **Topcom Xplorer 850 USB ADSL Modem** is capable of supporting the following DSL standards: ANSI T1.413 Issue 2, ITU G.992.1 (G.DMT), ITU G.992.2 (G.lite), and CAP (T1 TR-59).

PROTOCOL AND DEVICE DRIVER SELECTION (Depends on the DSL Service Provider)

The **Topcom Xplorer 850 USB ADSL Modem** can be easily connected to a USB port on the PC via a standard USB cable. The **Topcom Xplorer 850 USB ADSL Modem** is fully software upgradeable so that new features and updates may be added by simply loading a new version of the device driver onto your PC.

ADSL modems employ ATM (Asynchronous Transfer Mode) framing. ATM is a protocol that divides packets into small fixed sized cells for rapid transmission over high-speed networks. The ATM protocol allows various types of traffic (e.g. data, voice, and video) to be securely and efficiently carried over the same network. ATM is being widely deployed by telecommunications carriers in their backbone networks. Two type of ATM connections are possible, PVC (Permanent Virtual Circuit) and SVC (Switched Virtual Circuit).

Several different protocols are used on top of ATM. The protocol required in your configuration depends on the equipment deployed by your DSL service provider.

There are several possibilities:

1. Point to Point Protocol (PPP) Over ATM (RFC 2364) - PPP provides session setup, user authentication (login), and encapsulation for upper layer protocols such as IP (Internet Protocol). The use of PPP makes the modem appear as a dial modem to the operating system. Dial-Up Networking is used to establish a connection. PPP is supported by either the WAN (Wide Area Network) driver, or the ATM driver.
2. Bridged/Routed Ethernet/IP over ATM (RFC 1483) – This protocol makes the modem appear as a local area network (LAN) device to the operating system.
3. RFC 1577 – this is another local area network like protocol for IP address and ATM address mapping.

Three types of device drivers are provided for the **Topcom Xplorer 850 USB ADSL Modem**, WAN, LAN, and ATM. Note that all three drivers support ATM protocol. In addition, the ATM driver works with ATM services that are available in recent Windows operating systems.
The proper choice of driver depends on the combination of Windows operating system and protocol.

1. WAN driver – this driver causes the modem to resemble a dial-up modem. Call establishment is performed through Dial-Up Networking. This driver supports RFC 2364 with PVC connections. It can be used with Windows 98, Windows 98 SE, Windows 2000 and Windows Me.
2. LAN (RFC 1483) driver - this driver makes the modem appear as a LAN or Ethernet device. Connection establishment is automatic. This driver supports RFC 1483 with PVC connections. It can be used with Windows 98, Windows 98 SE, Windows 2000 and Windows Me.
3. ATM driver – this driver works in conjunction with ATM services provided by Windows. Both RFC 1577 and RFC 2364 are supported. The ATM driver uses Dial-Up Networking to create a PVC or SVC connection to establish a PPP (RFC 2364) connection. This driver can be used with Windows 98 SE, Windows 2000 and Windows Me.

The device driver choices are summarized in the table below:

Driver Type	***Protocol***	***Windows OS***
LAN	RFC 1483	Windows 98
		Windows 98 SE
		Windows 2000
		Windows Me
WAN	RFC 2364	Windows 98
		Windows 98 SE
		Windows 2000
		Windows Me
ATM	RFC 1577	Windows 98 SE
	RFC 2364	Windows 2000
		Windows Me

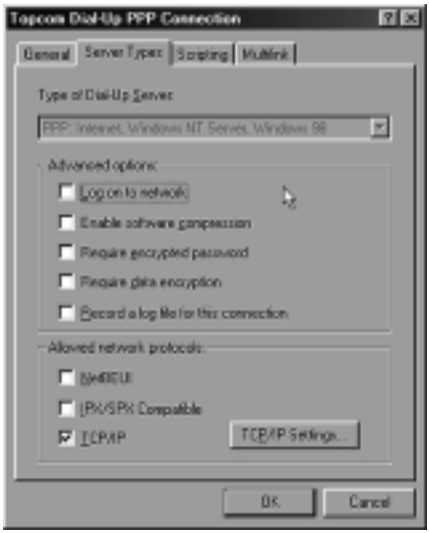
APPENDIX B

TCP/IP SETTINGS FOR WAN AND ATM USB DRIVERS

MICROSOFT® WINDOWS 98, WINDOWS 98 SE AND WINDOWS Me

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. Double click the 'My Computer' icon.
2. From the 'My Computer' window, double click the 'Dial-Up Networking' icon.
3. From the "Dial-Up Networking" window, right click on the "Topcom Dial-Up PPP Connection" icon and click 'Properties'.
4. From the "Server Types" tab of the "Topcom Dial-Up PPP Connection" window, select 'TCP/IP' (marked with a check in the box to the left) and click 'TCP/IP Settings'.



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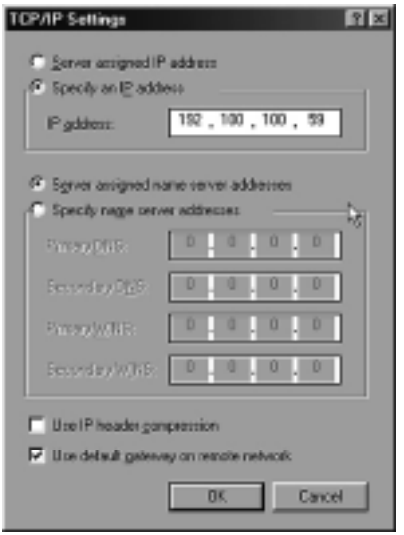
5. The "TCP/IP Settings" window is used to modify the IP address, Name Server addresses and/or default gateway as follows:
   - Change the IP address to a user defined address by selecting 'Specify an IP address' (click inside the circle to the left of it) and typing the address in the space provided.
   - Change the Name Server addresses to user defined addresses by selecting 'Specify name server addresses' (click inside the circle to the left of it) and typing the addresses in the spaces provided.
   - Change the default gateway by leaving the box blank to the left of 'Use default gateway on remote network'. Click 'OK'.



6. The "Topcom Dial-Up PPP Connection" window will be redisplayed. Click 'OK' to end the modifying TCP/IP options session.

MICROSOFT® WINDOWS 2000

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. Right click the 'My Network Places' icon and select 'Properties'.
2. From the "Network and Dial-Up Connections" window, right click on the "Topcom Dial-Up PPP Connection" icon and click 'Propertie's.
3. From the "Networking" tab of the "Topcom Dial-Up PPP Connection Properties" window, select 'Internet Protocol (TCP/IP)' and click 'Properties'.

4. The "Internet Protocol (TCP/IP) Properties" window is used to modify the IP address and DNS Server addresses:
   - Change the IP address to a user defined address by selecting 'Use the following IP address' (click inside the circle to the left of it) and typing the address in the space provided.
   - Change the DNS Server addresses to user defined addresses by selecting 'Use the following DNS server addresses' (click inside the circle to the left of it) and typing the addresses in the spaces provided.

   Note: The "Advanced" button of the "Internet Protocol (TCP/IP) Properties" window may be used to

alter DNS addresses, WINS addresses and IP security settings.

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 100 . 58
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

5. Click ‘OK’ from the “Internet Protocol (TCP/IP) Properties” window.
6. The “Topcom Dial-Up PPP Connection Properties” window will reappear. Click ‘OK’ to end the modifying TCP/IP options session.

APPENDIX C

TCP/IP SETTINGS FOR LAN USB DRIVERS

MICROSOFT® WINDOWS 98, WINDOWS 98 SE AND WINDOWS Me

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From the "Control Panel" window ('Start' – 'Settings' – 'Control Panel') double click on the 'Network' icon.
2. Select 'TCP/IP -> Xplorer 850 USB ADSL LAN Modem' from the "Configuration" tab of the "Network" window. Click 'Properties'.
3. From the "IP Address" tab of the "TCP/IP Properties" window, select either the "Obtain an IP address Automatically" or "Specify an IP Address option", depending on your network setup. If you select 'Specify an IP address', type the IP Address and Subnet Mask in the spaces provided. Consult with your network administrator to determine which option best suits your individual needs.

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4. The "Gateway" tab allows you to add or remove gateways. Consult with your network administrator to determine the appropriate addresses for your individual needs.
   - To add a new gateway, type the address in the 'New gateway' field and click 'Add'. The new gateway will appear in the 'Installed gateways' list.
   - To remove a previously installed gateway, highlight the entry to be removed in the 'Installed gateways' list and click 'Remove'. The gateway will no longer appear in the 'Installed gateways' list.

5. Click 'OK' from the "TCP/IP Properties" window.
6. The "Network" window will reappear. Click 'OK' to end the modifying TCP/IP options session.
7. If you have made changes to TCP/IP properties, you will be asked to restart/reboot your PC. Click 'Yes', and your PC will restart.

MICROSOFT® WINDOWS 2000

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. Right click the 'My Network Places' icon and select 'Properties'.
2. Double click the "Local Area Connection" icon from the "Network and Dial-Up Connections" window.
3. Select 'Internet Protocol (TCP/IP)' from the "General" tab of the "Local Area Connection" window. Click 'Properties'.

4. The "Internet Protocol (TCP/IP) Properties" window is used to modify the IP addresses and DNS Server addresses:
   - Change the IP address to a user defined address by selecting 'Use the following IP address option' (click inside the circle to the left of it) and typing the addresses in the spaces provided.
   - Change the DNS Server addresses to user defined addresses by selecting 'Use the following DNS server addresses' (click inside the circle to the left of it) and typing the addresses in the spaces provided.

   Note: The Advanced button of the "Internet Protocol (TCP/IP) Properties" window may be used to

alter IP settings, DNS server addresses, WINS addresses, IP security options, and TCP/IP filtering options.

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 100 . 100 . 59
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
192 . 100 . 100 . 15
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

5. Click ‘OK’ from the “Internet Protocol (TCP/IP) Properties” window.
6. The “Local Area Connection Properties” window will reappear. Click ‘OK’ to end the modifying TCP/IP options session.

TECHNICAL SPECIFICATIONS

<table>
<tr><th>ITEM</th><th>SPECIFICATIONS</th></tr>
<tr><td>Interface</td><td>• Compliant with USB 1.1
• USB bus-powered (no external powersupply required)</td></tr>
<tr><td>Standard compliance</td><td>• ANSI T1.413 issue 2 and ITU-T G.992.1
Downstream : Up to 8 Mbps in step of 32 Kbps
Upstream : Up to 640 Kbps in step of 32 Kbps
• ANSI T1.413 issue 2 and ITU-T G.992.2
Downstream : Up to 1.5 Mbps in step of 32 Kbps
Upstream : Up to 512 Kbps in step of 32 Kbps</td></tr>
<tr><td>Line Coding</td><td>• DMT (Discrete MultiTone)</td></tr>
<tr><td>Protocol Support</td><td>• RFC 1483 (Bridged/Routed Ethernet over ATM)
• RFC 2364 (PPP over ATM)
• RFC 1577 (IP)
<table>
<tr><th>Type</th><th>Protocol</th><th>Supported OS</th></tr>
<tr><td rowspan="2">ATM</td><td>RFC 1577</td><td>Windows 98 SE</td></tr>
<tr><td>RFC 2364</td><td>Windows 2000
Windows Me</td></tr>
<tr><td>WAN</td><td>RFC 2364</td><td>Windows 98
Windows 98 SE
Windows 2000
Windows Me</td></tr>
<tr><td>LAN</td><td>RFC 1483</td><td>Windows 98
Windows 98 SE
Windows 2000
Windows Me</td></tr>
</table></td></tr>
<tr><td>ADSL Line interface</td><td>• One RJ11</td></tr>
<tr><td>Microsoft Drivers</td><td>• NDIS 4.0 WAN Miniport
• NDIS 4.0 LAN Miniport
• NDIS 5.0 ATM Miniport</td></tr>
<tr><td>General</td><td>• Software upgradeable
• Includes a Microsoft Windows control panel monitoring program for configuring the adapter and checking the status of the connection
• Supports up to 16 simultaneous ATM virtual connections
• Compatible with all T1.413, G.DMT, and G.lite compliant CO DSLAM equipment as well as the vast majority of deployed CAP RADSL CO equipment</td></tr>
<tr><td>Support OS</td><td>• Windows 98, 2000 and Me
• MAC OS (1st semester of 2001)</td></tr>
<tr><td>System Requirements</td><td>• Pentium 166 MMX, 32MB RAM</td></tr>
<tr><td>Environment</td><td>• Operation temperature : 0°C to 40°C
• Humidity : 5% to 95% (no condensing)</td></tr>
</table>

WARRANTY

Warranty:	1 year on defects of the modem.
Attention:	Return your modem in the original packaging. Do not forget to include your purchase invoice. The warranty is not valid without the purchase invoice.

NL De in deze handleiding beschreven mogelijkheden worden gepubliceerd onder voorbehoud van wijzigingen.

F Les possibilités décrites dans ce manuel sont publiées sous réserve de modifications.

GB The features described in this manual are published with reservation to modifications.

D Die in dieser Bedienungsanleitung umschriebenen Möglichkeiten, werden vorbehaltlich Änderungen publiziert.

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